

*Rele. 12/9*

WHAT IS CLAIMED IS:

26. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human melanocortin-4 receptor (MC-4R) agonist wherein the binding of the compound to the human MC-4R is characterized by an IC<sub>50</sub> less than 30 nanomolar (nM) and the binding of the compound to the human MC-1R is characterized by an IC<sub>50</sub> greater than 30 nM.

27. The method of Claim 26 wherein the binding of the compound to the human MC-1R is characterized by an IC<sub>50</sub> greater than 100 nM.

28. The method of Claim 26 wherein the binding of the compound to the human MC-1R is characterized by an IC<sub>50</sub> greater than 1000 nM.

29. The method of Claim 26 wherein the binding of the compound to the human MC-1R is characterized by an IC<sub>50</sub> greater than 2100 nM.

30. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the binding of the compound to the human MC-4R is characterized by an IC<sub>50</sub> less than 30 nM and the binding of the compound to the human MC-3R is characterized by an IC<sub>50</sub> greater than 30 nM.

31. The method of Claim 30 wherein the binding of the compound to the human MC-3R is characterized by an IC<sub>50</sub> greater than 100 nM.

32. The method of Claim 30 wherein the binding of the compound to the human MC-3R is characterized by an IC<sub>50</sub> greater than 540 nM.

33. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the binding of the compound to the human MC-4R is characterized by an IC<sub>50</sub> less than

30 nM and the binding of the compound to the human MC-5R is characterized by an IC<sub>50</sub> greater than 30 nM.

9 34. The method of Claim 33 wherein the binding of the compound  
5 to the human MC-5R is characterized by an IC<sub>50</sub> of greater than 100 nM.

10 35. The method of Claim 33 wherein the binding of the compound  
to the human MC-5R is characterized by an IC<sub>50</sub> greater than 230 nM.

10 36. The method of Claim 26 wherein the compound is further  
characterized by binding to each of the human MC-2R, MC-3R, and MC-5R with an  
IC<sub>50</sub> greater than 30 nM.

15 37. The method of Claim 27 wherein the compound is further  
characterized by binding to each of the human MC-2R, MC-3R, and MC-5R with an  
IC<sub>50</sub> greater than 100 nM.

20 38. The method of Claim 28 wherein the compound is further  
characterized by binding to each of the human MC-2R and MC-3R with an IC<sub>50</sub>  
greater than 540 nM and binding to the MC-5R with an IC<sub>50</sub> greater than 230 nM.

25 39. The method of Claim 36 wherein the compound is further  
characterized by binding to any other human melanocortin receptor with an IC<sub>50</sub>  
greater than 30 nM.

40. The method of Claim 37 wherein the compound is further  
characterized by binding to any other human melanocortin receptor with an IC<sub>50</sub>  
greater than 100 nM.

30 41. The method of Claim 38 wherein the compound is further  
characterized by binding to any other human melanocortin receptor with an IC<sub>50</sub>  
greater than 500 nM.

35 42. A method of treating sexual dysfunction in a male or female  
subject which comprises administering to the subject in need thereof a therapeutically

effective amount of a compound which is a human MC-4R agonist wherein the compound binds to the human MC-4R with a binding affinity at least 10-fold higher than the compound binds to each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

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**43.** The method of Claim 42 wherein the compound binds to the human MC-4R with a binding affinity at least 100-fold higher than the compound binds to each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

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**44.** The method of Claim 42 wherein the compound binds to the human MC-4R with a binding affinity at least 1000-fold higher than the compound binds to each of the human MC-1R and MC-2R, at least 580-fold higher than the compound binds to the human MC-3R, and at least 250-fold higher than the compound binds to the human MC-5R.

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**45.** A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the compound binds to the human MC-4R with a binding affinity at least 10-fold higher than the compound binds to any other human melanocortin receptor.

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46. The method of Claim 45 wherein the compound binds to the human MC-4R with a binding affinity at least 100-fold higher than the compound binds to any other human melanocortin receptor.

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**47.** A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC<sub>50</sub> less than 10 nM and the functional activity at the MC-1R is characterized by an EC<sub>50</sub> greater than 10 nM.

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248. The method of Claim 47 wherein the functional activity of the compound at the MC-1R is characterized by an EC<sub>50</sub> greater than 100 nM.

49. The method of Claim 47 wherein the functional activity of the compound at the MC-1R is characterized by an EC<sub>50</sub> greater than 1200 nM.

50. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC<sub>50</sub> less than 10 nM and the functional activity at the MC-3R is characterized by an EC<sub>50</sub> greater than 10 nM.

51. The method of Claim 50 wherein the functional activity of the compound at the MC-3R is characterized by an EC<sub>50</sub> greater than 100 nM.

52. The method of Claim 50 wherein the functional activity of the compound at the MC-3R is characterized by an EC<sub>50</sub> greater than 1200 nM.

53. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC<sub>50</sub> less than 10 nM and the functional activity at the MC-5R is characterized by an EC<sub>50</sub> greater than 10 nM.

54. The method of Claim 53 wherein the functional activity of the compound at the MC-5R is characterized by an EC<sub>50</sub> greater than 100 nM.

55. The method of Claim 53 wherein the functional activity of the compound at the MC-5R is characterized by an EC<sub>50</sub> greater than 520 nM.

56. The method of Claim 47 wherein the compound is further characterized by having a functional activity at each of the human MC-2R, MC-3R, and MC-5R with an EC<sub>50</sub> greater than 10 nM.

57. The method of Claim 48 wherein the compound is further characterized by having a functional activity at each of the human MC-2R, MC-3R, and MC-5R with an EC<sub>50</sub> greater than 100 nM.

33. 38. The method of Claim 49 wherein the compound is further characterized by having a functional activity at the human MC-2R and MC-3R with an EC<sub>50</sub> greater than 1200 nM and a functional activity at the human MC-5R with an EC<sub>50</sub> greater than 520 nM.

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34. 39. A method of treating sexual dysfunction in a male or female subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the human MC-4R is characterized by an EC<sub>50</sub> at least 10-fold lower than the functional activity at each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

35. 40. The method of Claim 59 wherein the functional activity at the human MC-4R is characterized by an EC<sub>50</sub> at least 100-fold lower than the functional activity at each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

36. 41. A method for the oral treatment of sexual dysfunction in a male or female subject which comprises the oral administration to the subject in need thereof a therapeutically effective amount of a compound which is an agonist of the human MC-4R.

37. 42. The method of Claim 61 wherein the compound is a selective agonist of the human MC-4R.

38. 43. The method of Claim 61 wherein the sexual dysfunction is erectile dysfunction.

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